

THE PRESUMPTIONS OF DETERRENCE THEORY

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Deterrence is a demand of inaction coupled to a threat to use force. Deterrence theory mischaracterizes the choice presented to the adversary. It focuses on the costs and benefits of defiance—i.e., attack—and ignores the costs and benefits of compliance—i.e., no attack or 'peace.' This removes key elements from the analysis and shifts attention to the deterrer's military capability and credibility. Deterrence theory took this peculiar shape given its origins in the Cold War, particularly the American focus on containment, characterization of Soviet preferences between conflict and the status quo, fascination with nuclear weapons, and the need for guidance to exploit their destructive potential for political purposes. Consequently, the delicacy of the 'balance of terror' was overlooked for nearly a decade, deterrence theory applied to only a narrow range of situations, and the deterrence research program ended along with these circumstances. But deterrence theory can once again inform American strategic thought if freed from its implicit Cold War assumptions.

"The task of decision involves three steps: ① the listing of all the alternative strategies; ② the determination of all the consequences that follow upon each of these strategies; ③ the comparative evaluation of these sets of consequences."¹

For almost sixty years, American strategists have grappled with the problem of influencing the behavior of adversaries through coercive means—the threat or use of force. Their primary focus has been deterrence, which is the threat of force coupled to a demand that the adversary maintain its behavior with respect to the issue at hand. In this paper I argue that this focus has helped and hindered our understanding of coercion in international politics.

¹ Herbert A. Simon, Administrative Behavior: A Study of Decision-Making Processes in Administrative Organization, Third Edition, (New York: The Free Press, 1945/1976), page 67.

Deterrence theory is merely an application of decision theory to particular circumstances. It aims to explain and predict the expected choice of an adversary of whom a demand of inaction has been made and who faces the chance that the demander will use force to impose costs or get its way if compliance is not forthcoming. This knowledge is then to be used to offer prescriptions to those who would engage in deterrence. Typically, the adversary's choice is characterized as one dependent upon the costs and benefits of defying the deterrer. For example, Alexander George and Richard Smoke wrote that deterrence will succeed if "the expected costs and risks (negative utilities) of attacking outweigh the expected benefits (positive utilities): $C + R > B$."² Analyses then move on to consider the relative importance of the deterrer's military capability and credibility, factors that affect the adversary's costs and benefits of defiance.³

Decision theory requires that the analyst specify the problem facing the decision maker of interest, his options, their consequences, and how these are evaluated. But analyses based upon the standard deterrence model are structured as if the adversary faces a single alternative: defying the deterrer. They ignore the adversary's alternative—compliance—and how the adversary evaluates its expected value. The misrepresentation of the adversary's choice situation removes key

² Alexander L. George and Richard Smoke, Deterrence in American Foreign Policy: Theory and Practice, (New York: Columbia University Press, 1974), page 60. Also see John Foster Dulles, "The Evolution of Foreign Policy: Address by the Secretary of State, January 12, 1954 (Excerpts)," in American Foreign Policy 1950–1955. Basic Documents, Volume I. Department of State Publication 6446, (Washington, D.C.: United States Government Printing Office, July 1957), page 81; John J. Mearsheimer, Conventional Deterrence, (Ithaca: Cornell University Press, 1983), page 14; Peter Karsten, Peter D. Howell and Artis Frances Allen, Military Threats: A Systemic Historical Analysis of the Determinants of Success, (Westpoint: Greenwood Press, 1984), page 4, 6-7; Paul K. Huth, Extended Deterrence and the Prevention of War, (New Haven: Yale University Press, 1988), page 46; and Frank Harvey, "Deterrence and Ethnic Conflict: The Case of Bosnia-Herzegovina, 1993–94," *Security Studies* 6, 3 (Spring 1997), pages 186-187, among others.

³ "Theoretical attention . . . has been largely devoted to the question of how the defender (deter-
rer) can convince the attacker that the costs of using force will be very high. To that end, scholars have tended to concentrate on the question of what types of military capabilities will effectively threaten the attacker with high costs, and what types of diplomatic and military actions strengthen the potential attacker's assessment of the defender's resolve to honor its threat of military retaliation," (Paul K. Huth and Bruce M. Russett, "Testing Deterrence Theory: Rigor Makes A Difference," *World Politics* 42, 4 (July 1990), page 470).

considerations from the analysis and, indeed, shifts it from the adversary's choice to the deterrent's actions. The adoption of this truncated model within deterrence theory has had numerous consequences for our knowledge of coercion. One was that the tenuous nature of the nuclear 'balance of terror' was obscured for nearly a decade after the Soviets acquired an atomic capability. Another was an inability to explain 'anomalous' cases of deterrence failure, such as the Japanese surprise attack at Pearl Harbor, without resorting to cognitive and psychological deviations from rational choice that render deterrence theory practically irrelevant. Deterrence theory thus failed to be as useful as it could have been and has at times misled rather than illuminated the situations to which it has been applied, with unknowable consequences.

How did this situation come about? How is it that deterrence theorists came to misrepresent the very problem with which they grappled? Do they do so still? In this paper, I focus on the 'Golden Age' of deterrence theory, from 1946–1967, in order to address these issues. I argue that deterrence provided a conceptual, theoretical, and policy framework for the most pressing issues facing US foreign policy makers. It helped legitimize the use of coercive means in international politics for Americans, encouraged further theoretical development of the concept of deterrence and its implications, and provided a set of analytic tools that could be applied to the many new and unique policy problems facing the United States. But the very success enabled by the focus on deterrence also hampered the application of this body of knowledge to all but the most narrow of situations and to other forms of coercion. The intellectual momentum developed by deterrence theory allowed historically-bound presumptions about the adversary's preferences for conflict and compliance to be implicitly incorporated into it and opportunities to recognize the limitations that these presumptions implied were missed, or misunderstood, when their effects were encountered. The inertia of deterrence has ultimately contributed to an incomplete and skewed understanding of coercion and its requirements by policy makers. Understanding the political, military, and intellectual milieu in which deterrence theory originated and developed can highlight its constrictive assumptions and provide guideposts for its improvement as American strategic thought adjusts itself to the new requirements of the post-9/11 world.

The Dominance of Deterrence

How did deterrence come to dominate American strategic thought? Why was it presumed that the adversary would only consider the costs and benefits of defying the deterrer's wishes? How did the deterrer's ability to credibly threaten high costs if the target defied its demands come to be the sole focus of deterrence theory? How did this focus hamper the application of deterrence to its central focus—deterring Soviet aggression—as well as other problems? I address these questions in the following sections.

American thought about the strategic uses of coercion developed within the context of the first decade of the Cold War. Only then did American policy makers and scholars become significantly engaged in thinking about the role of coercion in international affairs.⁴ Two remarkable developments dominated strategic thought in this era. The first was the emergence of a geopolitical and ideological competition between the United States and the Soviet Union. The second was the development of atomic and then thermonuclear devices as means of warfare.⁵ Theories of coercion therefore built upon the ideas and presumptions that shaped US foreign policy toward the Soviet Union and attitudes toward these new weapons.

⁴ For arguments specifically on American thinking about coercion, see Robert E. Osgood, Limited War: The Challenge To American Strategy, (Chicago: University of Chicago Press, 1957), chapter 2; and Morton H. Halperin, Limited War in The Nuclear Age, (New York: John Wiley and Sons, Inc., 1963). For discussions of the impact of idealism in American foreign policy, particularly as a discouragement to strategic thought, see Walter Lippmann, U.S. Foreign Policy: Shield of The Republic, (Boston: Little, Brown and Company, 1943); George F. Kennan, American Diplomacy, Expanded Edition, (Chicago: The University of Chicago Press, 1984); and Henry A. Kissinger, Diplomacy, (New York: Simon & Schuster, 1994).

⁵ "As the Second World War drew to a close and the eclipse of German and Japanese power became certain, two new and harassing problems began to throw their shadow over the international scene: one, the future relationship between the United States and the Soviet Union, the other, the atomic bomb," (Arnold Wolfers, "The Atomic Bomb in Soviet-American Relations," in Bernard Brodie, editor, The Absolute Weapon: Atomic Power and World Order, (New York: Harcourt, Brace and Company, 1946), page 111). Also see Arnold L. Horelick, "The Opponent Environment," in Bernard Brodie, editor, The Future of Deterrence in U.S. Strategy. Study AF-49 (638) -1772, (Los Angeles: Security Studies Project, University of California at Los Angeles, 1968), page 45.

The United States emerged from the Second World War as a status quo power. It was victorious and desired to consolidate its victory over fascist totalitarianism so as to prevent the need for another great national exertion. American policy makers believed that the economic and political conditions of the interwar period had to be irrevocably altered because they had enabled Nazi Germany and Imperial Japan to accumulate their economic, industrial, and military might and to exercise it freely for national aggrandizement. "Postwar peace and stability had to be constructed on the foundation of nonaggression, self-determination, equal access to raw materials, and nondiscriminatory trade. When these principles were violated, nations used military power and autarkical practices to accrue strength disproportionate to their size and stature, dysfunctional to the international system, and dangerous to the physical security of the United States."⁶ Thus they set up multilateral political and economic institutions, such as the United Nations, the World Bank, and the International Monetary Fund, that would implement these principles and prevent the return of the conditions that permitted the last war. The preponderant political, economic, and military position of the United States would undergird this structure.

Although American policy makers preferred such multilateral political and economic means of influence given the exertions undertaken in the Second World War, they were not opposed to using coercion to protect this system or its members. The 'lessons of Munich' were fresh in their minds. They firmly believed that politically totalitarian, economically autarkic, diplomatically uncooperative, and militarily aggressive regimes could not be sated through accommodation or appeasement. Such policies granted these revolutionary states succor and made ultimately opposing them more difficult. American leaders were determined to use coercive means to rebuff challenges to their nascent international institutions as well as threats to the security and independence of governments whose countries participated in this system. They therefore cast themselves in the role of defenders of the emerging postwar status quo.

⁶ Melvyn P. Leffler, A Preponderance of Power: National Security, the Truman Administration, and the Cold War, (Stanford: Stanford University Press, 1992), page 23.

In the aftermath of the war, only the Soviet Union possessed the qualities that worried American policy makers. It had overwhelming power on the Eurasian land mass, was governed by a totalitarian regime, opposed free market capitalism and open trade, and its behavior indicated that it was interested in territorial aggrandizement. Through most of the Second World War, American policy was driven by the thesis that the sources of Soviet hostility were external and would be removed through wartime cooperation and victory over Germany and Japan.⁷ Initial disappointment with the lack of Soviet cooperation in the postwar period required American policy makers to revise their view of the Soviet regime and its intentions.⁸ In response to State Department inquiries, George F. Kennan, the American *charge d'affaires* in Moscow, provided an analysis of the motives behind the Soviets' hostile rhetoric and uncooperative behavior.⁹ Kennan argued that the Soviet Union was ruled by a totalitarian regime that brooked no opposition, at home or abroad, and presumed an 'innate antagonism' between itself and capitalist states. In order to fulfill its goal of absolute security in a capitalist world, the Soviet Union sought to expand its power and influence. Kennan argued that it would opportunistically do so "wherever it is permitted to move. . . . Its main concern is to make sure that it has filled every nook and cranny

⁷ "They lay, the President [FDR] thought, in the threats posed by Germany and Japan, in the West's long-standing aversion to Bolshevism, and in the refusal, accordingly, of much of the rest of the world to grant the Russians their legitimate position in international affairs." He believed that the experience of cooperation during the war, the removal of the German and Japanese hazards, and the attention paid to what were considered the Soviet Union's legitimate security concerns—including it in the postwar power structures and acquiescing to Soviet spheres of influence in eastern Europe and East Asia—would remove these external sources of insecurity (John Lewis Gaddis, Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy, (Oxford: Oxford University Press, 1982), page 9).

⁸ For a discussion of official US views and approaches to the Soviet Union in the immediate postwar period, see Gaddis, Strategies of Containment, pages 13-24; and John Lewis Gaddis, "The Insecurities of Victory: The United States and the Perception of the Soviet Threat After World War II," in John Lewis Gaddis, The Long Peace: Inquiries into the History of the Cold War, (New York: Oxford University Press, 1987).

⁹ Kennan's "Long Telegram" can be found in United States Department of State, Foreign Relations of the United States: 1946, Volume VI, (Washington: United States Government Printing Office, 1969), pages 696-709. A shortened and declassified version of this analysis was published as "The Sources Of Soviet Conduct," *Foreign Affairs* 25, 3 (July 1947) under the pseudonym of X.

available to it in the basin of world power."¹⁰ Within months, Kennan's analysis had been widely circulated and read throughout the US foreign policy establishment, including President Truman.¹¹ It provided the conceptual framework for US relations with the Soviet Union for four decades—and the starting point for deterrence theory.¹²

The emergence of the Soviet Union as an uncooperative revolutionary power provided American leaders with an opportunity to apply the 'lessons of Munich' to the postwar world.¹³ These lessons seemed especially applicable to US-Soviet relations because it appeared that noncoercive means were not effective in influencing Soviet policy.¹⁴ Kennan argued that Soviet hostility and its drive for power were innate—the products of Marxism-Leninism, the 'lessons of Russian history,' and the need to continually justify the extreme measures taken by the leadership to ensure their position. Therefore no well-intentioned policy by the United States could change its basic orientation.¹⁵ "In these circumstances it is clear that the main element of any United States

¹⁰ X (George F. Kennan), "The Sources Of Soviet Conduct," *Foreign Affairs* 64, 4 (Spring 1987), page 861. This is a fortieth anniversary reprinting of the original article.

¹¹ John Lewis Gaddis, The United States and the Origins of the Cold War, 1941–1947, (New York: Columbia University Press, 1972), pages 303-304.

¹² For evidence that these presumptions constituted the starting point for deterrence theory, see Wolfers, "The Atomic Bomb in Soviet-American Relations," pages 116-117, 127-130; Bernard Brodie, "The Atom Bomb as Policy Maker," *Foreign Affairs* 27, 1 (October 1948), pages 20-23; and William W. Kaufmann, "Introduction," in William W. Kaufmann, editor, Military Policy and National Security, (Port Washington: Kennikat Press, 1956).

¹³ "Fortunately, the experience of the thirties contains a warning not only to any would-be appeasers and defenders of the established order but equally to any country which might believe it could change the *status quo* by force without incurring the risk of a major war," (Wolfers, "The Atomic Bomb in Soviet-American Relations," pages 128-129).

¹⁴ See Gaddis, Strategies of Containment, pages 13-19 for a description of the quid pro quo strategy that the Roosevelt and Truman administrations used in the 1944-1946 period.

¹⁵ "Some of us here have tried to conceive the measures our country would have to take if it really wished to pursue, at all costs, [the] goal of disarming Soviet suspicions. We have come to the conclusion that nothing short of complete disarmament, delivery of our air and naval forces to Russia and resigning of [the] powers of government to American Communists would even dent this problem: and even then we believe—and this is not facetious—that Moscow would

policy toward the Soviet Union must be that of a long-term patient but firm and vigilant containment of Russian expansive tendencies," concluded Kennan.¹⁶ Given the ineffectiveness of persuasion and the inadvisability of inducement, containment would have to be based upon deterrence.

The 'lessons of Munich' also encouraged thinking about the 'roll back' of Soviet influence in Eastern Europe and even preventive war against the Soviet Union, particularly before the American monopoly in atomic weaponry was lost.¹⁷ But compelling uses of American power—i.e., those designed to coerce changes in Soviet behavior—were not given extended consideration.¹⁸ It quickly became clear to all involved that the United States would not be willing to exercise its power to compel the Soviet Union to come to terms over the issues immediately souring their relations.¹⁹ Nor was the United States willing to coerce a change in the Soviet regime, which would require yet another world war and occupation of the whole of Soviet territory.²⁰ "The

smell a trap and would continue to harbor [the] most baleful misgivings," wrote Kennan in a subsequent cable, (quoted by Gaddis, Strategies of Containment, page 20).

¹⁶ Kennan, "Sources of Soviet Conduct," page 861.

¹⁷ George Quester, Nuclear Monopoly, (New Brunswick: Transaction Press, 2000).

¹⁸ John Lewis Gaddis, "The Origins of Self-Deterrence: The United States and the Non-Use of Nuclear Weapons, 1945–1958," in Gaddis, The Long Peace, pages 108-110.

¹⁹ "The United States is not likely to attack Russia with atom bombs over such issues as democracy in Eastern Europe or 'autonomy movements' in Asia, and the Soviet leaders know it. Whether they are also convinced that we would not intervene by force if the Soviet Union were to commit an act of overt aggression against one of its neighbors, nobody can tell. It would be fatal to the Russians as well as to the peace of the world if they misjudged our reactions. But there is little American diplomacy can do about it. In view of the present temper of the American public and our appalling state of demobilization, diplomatic steps might appear to constitute a mere substitute for military action," (Wolfers, "The Atomic Bomb in Soviet-American Relations," page 115).

²⁰ William T. R. Fox, The Super-Powers: The United States, Britain, and the Soviet Union—Their Responsibility for Peace, (New York: Harcourt, Brace, 1944), page 102; Wolfers, "The Atomic Bomb in Soviet-American Relations," pages 116-117, 142-143; Bernard Brodie, "The Implications for Military Policy," in Brodie, The Absolute Weapon, pages 90-95.

whole idea of an offensive use of the bomb during the period of our monopoly can safely be laid aside as utterly impractical," concluded Arnold Wolfers. "Therefore, unless the Russians were foolhardy enough to force us, before they themselves had attained atomic power, to use the bomb in defense of other countries or of interests we deemed vital, it would seem as if our sole possession of the atomic weapon was not going to be of much service to us or the world."²¹ In this way, deterrence came to dominate American thinking about coercion.

Soviet Preferences for Conflict and Compliance

American understandings of the roles and relative power of the United States and the Soviet Union also affected the manner in which the choice to be presented to the Russians was conceived. In most circumstances, it was presumed that they would face a choice between taking a chance to make a gain or accepting the status quo. As Wolfers put it, "the international situation of the two countries differs in such a way that the question of whether to appease the United States may never arise in Moscow. The Soviet Union, as recent events have demonstrated, is far less satisfied with the existing status quo than is the United States. If unilateral action to change the status quo occurs in the future, it is far more likely to originate from the Soviet Union than here. As a consequence the choice between defending the status quo or pursuing a policy of appeasement will, if it occurs at all, present itself to us rather than to the Russians."²²

Even though they framed US-Soviet relations this way, American policy makers and strategists presumed that the status quo was amenable to the Soviet Union, its protestations to the contrary notwithstanding. They held this belief primarily because no major power threatened the security or independence of the Soviet Union. Nazi Germany and Imperial Japan had been defeated, the rest of Europe was devastated, and the United States was, of course, benign. The choice most

²¹ Wolfers, "The Atomic Bomb in Soviet-American Relations," page 119. For an historical perspective, see Marc Trachtenberg, "A 'Wasting Asset': American Strategy and the Shifting Nuclear Balance, 1949-1954," *International Security* 13, 3 (Winter 1988/1989).

²² Wolfers, "The Atomic Bomb in Soviet-American Relations," page 128.

likely to be presented to the Russians would be to accept the status quo or risk an American response to change it.

Stalinist Russia might desire to take advantage of every opportunity to increase its material power and political influence, but American strategists believed that it would not risk war with the United States to obtain its goals. They held this belief because they knew that Stalin could count on America's military and economic preponderance was obvious to all. The Soviets might desire to alter the status quo to their advantage but would ultimately content themselves with consolidating that which they already had to avoid overt conflict with the United States.

Communist ideology would reinforce this tendency. "[T]he Kremlin is under no ideological compulsion to accomplish its purposes in a hurry," argued Kennan. "[I]t can be patient. It has no right to risk the existing achievements of the revolution for the sake of vain baubles of the future. . . . Thus the Kremlin has no compunction about retreating in the face of superior force. . . . [I]f it finds unassailable barriers in its path, it accepts these philosophically and accommodates itself to them."²³ The Soviets believed that time was on their side and that tactical withdrawals were not indicative of a strategic retreat. Successful deterrence would depend upon this peculiar Soviet trait. As Bernard Brodie put it, "the saving grace of the Soviet philosophy so far as international relations are concerned is that, unlike the Nazi ideology, it incorporates within itself no time schedule. . . . The Soviet attitude appears to be much more opportunistic. The Soviets may be unshakably convinced that ultimately there must be war What we can do, however, is to persuade them each time the question arises that 'The time is not yet!'"²⁴

The conclusion that was drawn from this characterization of the US-Soviet relationship and Communist ideology was that the Soviets preferred the continuation of the status quo to unprofitable aggression. Contingencies where this might not be the case were not given substantial

²³ Kennan, "Sources of Soviet Conduct," pages 860-861. Here Kennan was elaborating on Lenin's dictum: if one encounters steel, withdraw; but if one finds mush, push on.

²⁴ Brodie, "Atom Bomb as Policy Maker," page 23.

consideration, despite containment's strategic goal of "either the breakup or the gradual melting of Soviet power" and warnings that "Soviet Russia might be changed overnight from one of the strongest to one of the most pitiable of national societies."²⁵ Deterrence under such circumstances was deemed to be qualitatively different from the problem of tactically deterring routine Soviet probes. The task facing the United States was instead framed as convincing the Soviet leadership in every case where it might be tempted to exercise its aggressive tendencies that doing so would not result in net benefits. Strategists therefore directed themselves toward working through the requirements of this task.

The Focus on Capability and Credibility

But how would a policy of deterrence in the service of containment be implemented? Equally important for the shape of American strategic thought in the postwar period was the development of atomic and then nuclear weapons.²⁶ They provided an impetus for new and creative thinking about how military means could be put to political ends such as deterrence.

'The absolute weapon' infatuated American strategic thought out of both novelty and necessity. Atomic weapons were novel because never before had so much firepower been compressed into a single weapon. The ability of such a weapon to motivate political action made it appear even more novel. The power of only two atomic bombs had convinced Imperial Japan to surrender in August 1945, even though it had been estimated that it could have continued its resistance for

²⁵ Kennan, "Sources of Soviet Conduct," pages 868, 866.

²⁶ "Either of these elements alone—the new weapons or the perceived new threat—might not have sufficed to produce a strategy so critically dependent on deterrence. Without nuclear weapons, strategic deterrence of an opponent believed to be as powerful and expansionist as the Soviet Union of the late 'forties and early 'fifties, might not have been thought feasible. . . . in the absence of a putative opponent perceived to be unremittingly hostile, limitlessly ambitious, and possessing a large non-nuclear military advantage in the crucial theater, elaborately articulated strategies of deterrence and costly force structures for implementing them might not have been developed," (Horelick, "The Opponent Environment," pages 45-46).

many more months.²⁷ Thus it appeared that this weapon had very unique physical and political qualities that made it, and warfare in which it was utilized, qualitatively different from all that had come before.²⁸

Necessity placed this unique weapon at the center of America's postwar deterrent posture. The ability of the United States or its European allies to place 'unassailable barriers' in the path of the Soviet Union if it decided to engage in aggression against western Europe was lacking in the extreme. At that time, the countries of western Europe were militarily impotent and the United States had demobilized most of its armed forces. The Red Army, on the other hand, demobilized

²⁷ Brodie made this argument in a March 1951 report prepared for General Hoyt Vandenberg, the Air Force Chief of Staff. Fred Kaplan describes the contents of Brodie's report in The Wizards of Armageddon, (New York: Simon and Schuster, Inc., 1983), pages 45-48. Brodie appears to have used relevant portions of this report in a "top secret" lecture entitled "Changing Capabilities and War Objectives," given at the Air War College on April 17, 1952. See Marc Trachtenberg, History and Strategy, (Princeton: Princeton University Press, 1991), page 6, note 6 and pages 10-11. This interpretation of the primary motive for Japan's decision to surrender was also shared by Karl T. Compton, "If the Atomic Bomb Had Not Been Used," *The Atlantic Monthly* (December 1946); Louis Morton, "The Decision to Use the Atomic Bomb," *Foreign Affairs* 35, 2 (January 1957); and Herbert Feis, The Atomic Bomb and the End of World War II, (Princeton: Princeton University Press, 1966).

There are, however, three alternative interpretations of the Japanese decision. The first was that the conventional bombing that preceded the atomic bombings had imposed enough damage to coerce the Japanese leadership to consider surrender in any event. See the United States Strategic Bombing Survey, Japan's Struggle to End the War, (Washington: United States Government Printing Office, 1946). The second rival interpretation is that the willingness of the United States to compromise on its demand of unconditional surrender by allowing the Japanese to retain their Emperor was the key factor in their decision. See Paul Kecskemeti, Strategic Surrender: The Politics of Victory and Defeat, (Stanford: Stanford University Press, 1958); and Barton J. Bernstein, "The Perils and Politics of Surrender: Ending the War With Japan and Avoiding the Third Atomic Bomb," *Pacific Historical Review* 46, 1 (February 1977). The final alternative emphasizes the dire military situation in which the Japanese found themselves in August 1945: facing defeat and possibly having the home islands overrun. See Robert A. Pape, Bombing to Win: Air Power and Coercion in War, (Ithaca: Cornell University Press, 1996), chapter 4.

²⁸ Frederick S. Dunn, "The Common Problem," in Brodie, The Absolute Weapon, page 4; Brodie, "Implications for Military Policy," page 71; and Brodie, "The Atom Bomb as Policy Maker," page 25.

far less quickly and considerably outnumbered western forces.²⁹ It was commonly asserted that "all the Russians would need would be shoes" to overrun western Europe if they so chose.³⁰ Atomic weapons provided the answer to the deterrent West's dilemma.³¹ Their 'superior force' would provide the means of implementing the lessons of Munich in a manner that was amenable to both America's strength and its proclivities.³²

The combination of the vast destructive capability of atomic weapons and the necessity of relying upon them to meet western security requirements made them the centerpiece of strategic thought in the postwar era. But how were atomic weapons to be used to deter the possibility of Soviet aggression? Technological, doctrinal, and practical considerations all suggested that the atomic bomb could best deter aggression by promising to impose devastating costs upon an adversary in the event of war rather than denying the adversary the aims of its aggression.

²⁹ Matthew A. Evangelista, "Stalin's Postwar Army Reappraised," *International Security* 7, 3 (Winter 1982/1983) provides a critical assessment of the size and offensive capabilities of Soviet forces in 1947-1948, "which coincides with the completion of Soviet demobilization," (page 111). Evangelista argues that Western perceptions of Soviet capability were exaggerated. Nevertheless, they drove western defense planning and strategic thinking to a considerable extent.

³⁰ Richard Smoke, National Security and the Nuclear Dilemma: An Introduction to the American Experience, Second Edition, (New York: Random House, 1984), page 53.

³¹ Secretary of Defense Forrestal wrote to President Truman that "Throughout my trip in Europe I was increasingly impressed by the fact that the only balance that we have against the overwhelming manpower of the Russians, and therefore the chief deterrent to war, is the threat of immediate retaliation with the atomic bomb," (Walter Millis with E.S. Duffeld, editors, The Forrestal Diaries, New York: Viking Press, 1951), page 538).

³² Smoke, National Security and the Nuclear Dilemma, page 53. Lawrence Freedman quotes Walter Lippmann as writing that atomic weapons and the means to deliver them appeared as "the perfect fulfillment of all wishful thinking on military matters: here is war that requires no national effort, no draft, no training, no discipline, but only money and engineering know-how of which we have plenty. Here is the panacea which enables us to be the greatest military power on earth without investing time, energy, sweat, blood, and tears, and—as compared with the cost of a great Army, Navy, and Air Force—not even much money," (Lawrence Freedman, The Evolution of Nuclear Strategy, (New York: St. Martin's Press, 1983), page 48).

Technologically, it was realized that the prospects of erecting an effective defense against an atomic attack delivered by air were slim. "Before we can speak of a defense against atomic bombs being effective, the frustration of the attack for any given target area must be complete," argued Brodie, since a single bomb could wreak unspeakable damage upon its target.³³ Thus it would be possible to impose vast costs upon an aggressor with atomic weapons even in the face of 'effective' efforts to defend itself. Doctrinally, notions of strategic bombardment developed in the interwar period and implemented during World War II provided guidance as to how atomic weapons could be used to make war unprofitable for a potential aggressor.³⁴ The destruction of the adversary's war-making potential, coincidentally located in its urban areas, would impose tremendous costs upon it as well as significantly diminish its chances of victory.³⁵ Indeed, given the experiences of Hiroshima and Nagasaki—and the limited number of weapons available—the atomic bomb was seen primarily as a 'city-busting' weapon by all concerned for many years following the war.³⁶ Atomic weapons made strategic bombing all the more effective

³³ "The defense of London against the V-1 was considered effective, and yet in eighty days some 2,300 of those missiles had hit the city. The record bag was that of August 28, 1944, when out of 101 bombs which approached England 97 were shot down and only four reached London. But if those four had been atomic bombs, London survivors would not have considered the record good," (Bernard Brodie, "War in the Atomic Age," in Brodie, The Absolute Weapon, pages 28-34, quotes on pages 29-30). Also see Bernard Brodie, Strategy in the Missile Age, (Princeton: Princeton University Press, 1959), chapter 6.

³⁴ Brodie, Strategy in the Missile Age, chapters 2-5.

³⁵ The Joint Chiefs of Staff (JCS) had determined by January 1949 that an atomic attack on the Soviet Union would reduce Soviet industrial capacity by 30 to 40 percent, but it "would not, per se, bring about capitulation, destroy the roots of Communism or critically weaken the power of the Soviet leadership to dominate the people." Nor would it "seriously diminish the capacity of Soviet ground forces to advance into Western Europe, the Middle East, and the Far East," ("Evaluation of Effect on Soviet War Effort Resulting from Strategic Air Offensive," May 11, 1949, (also known as the Harmon Committee Report), in Thomas H. Etzold and John Lewis Gaddis, editors, Containment: Documents on American Policy and Strategy, 1945-1950, (New York: Columbia University Press, 1978), pages 362-363).

³⁶ A JCS committee concluded in October 1945 that "[i]n the foreseeable future [the atomic bomb] will be primarily a strategic weapon of destruction against concentrated industrial areas vital to the war effort of an enemy nation. In addition, it may be employed against centers of population with a view to forcing an enemy state to yield through terror and disintegration of national morale. . . . [It is] not in general a tactical weapon suitable for employment against ground

given their vast destructive power—the lack of which was responsible for its failure to prove decisive during World War II.³⁷ Some thought was devoted to the uses of atomic airpower to deny an adversary the fruits of its efforts,³⁸ but belief in the merits of strategic bombing over what would in effect be air support of land warfare was bolstered by organizational and resource considerations. As a matter of doctrine, the US Air Force believed that strategic bombing would prove decisive in defeating an adversary, while supporting slow-moving land forces would achieve, at best, tactical success.³⁹ In terms of resources, the relative scarcity of atomic weapons during the early atomic age undercut any notions of 'wasting' such valuable assets on the battlefield.⁴⁰ This constraint manifested itself during the Korean War, when it was argued that neither

troops or naval forces at sea, because they offer targets too widely dispersed to justify the use of a weapon of such limited availability and great cost," (Joint Strategic Survey Committee, "Overall Effect of Atomic Bomb on Warfare and Military Organization," JCS 1477/1 (October 30, 1945), CCS 471.6 (8-15-45), Records of the Joint Chiefs of Staff, RG 218, NA). For examples of civilian analysts reaching similar conclusions, see Jacob Viner, "The Implications of the Atomic Bomb for International Relations," *Proceedings of the American Philosophical Society* 90, 1 (January 29, 1946), page 53; Dunn, "The Common Problem," pages 4-5; Brodie, "War in the Atomic Age," pages 24-27 and *passim*; Brodie, "Implications for Military Policy," pages 72-74, 99-107 and *passim*.

³⁷ Bernard Brodie, "Strategic Bombing: What Can It Do?" *The Reporter* 3, 4 (August 15, 1950); Bernard Brodie, "Nuclear Weapons: Strategic or Tactical?" *Foreign Affairs* 32, 2 (January 1954), page 227; Brodie, *Strategy in the Missile Age*, pages 101-106.

³⁸ Wolfers, "The Atomic Bomb in Soviet-American Relations," page 135; also see Barton J. Bernstein, "Eclipsed by Hiroshima and Nagasaki: Early Thinking About Tactical Nuclear Weapons," *International Security* 15, 4 (Spring 1991).

³⁹ Bernard Brodie, "Concepts of Deterrence Since 1945," in Brodie, *The Future of Deterrence*, pages 6-7; David Alan Rosenberg, "'A Smoking Radiating Ruin at the End of Two Hours': Documents on American Plans for Nuclear War with the Soviet Union, 1954-1955," *International Security* 6, 3 (Winter 1981/82), page 10. Of course, the newly-independent Air Force was also keen to establish an exclusive role for itself rather than continuing to be seen as an adjunct to the US Army. For a discussion of the bureaucratic battles of the Air Force vis-à-vis the other services, see United States Air Force, *History of the United States Air Force*, ATC Pamphlet 190-1, (Maxwell Air Force Base, AL: Air University, June 1, 1961), especially chapter 10; and Warner R. Schilling, Paul Y. Hammond, and Glen H. Snyder, *Strategy, Politics, and Defense Budgets*, (New York: Columbia University Press, 1962).

⁴⁰ Brodie, "War in the Atomic Age," pages 52-53; Brodie, "Nuclear Weapons: Strategic or Tactical?" page 224; Brodie, "Concepts of Deterrence Since 1945," page 7.

the North Koreans nor the Chinese presented suitable targets for atomic bombardment, despite their use of mass armies and the at times precarious situation of US forces on the peninsula.⁴¹ All of these factors combined to place the emphasis on the threat of imposing costs, rather than denying benefits, to deter aggression.

The Korean War forced policy makers and analysts of strategic affairs alike to confront the limitations of manipulating only the adversary's costs of aggression. Although deterrence was not attempted in the case of Korea, its territory having been placed outside of the 'defensive perimeter' of the United States publicly by Secretary of State Dean Acheson,⁴² it was realized that the threat of atomic retaliation could not deter all aggressive acts by the Soviet Union and its allies.⁴³ The United States therefore undertook to build up its conventional forces and explore the possibility of 'tactical' atomic weaponry to attain a capability that could deny the Soviet Union the benefits of any aggression that utilized its superior manpower. This would 'bring the battle

⁴¹ Conrad C. Crane, "To Avert Impending Disaster: American Military Plans to Use Atomic Weapons During the Korean War," *Journal of Strategic Studies* 23, 2 (June 2000); Roger Dingman, "Atomic Diplomacy During the Korean War," *International Security* 13, 3 (Winter 1988/89); McGeorge Bundy, Danger and Survival: Choices About The Bomb in The First Fifty Years, (New York: Vintage Books, 1988), pages 231-232; and Gaddis, "The Origins of Self-Deterrence," pages 115-123. Such arguments were anticipated by Brodie, "War in the Atomic Age," pages 52-53, 59. Other considerations that mitigated against the use of atomic weapons in Korea were the fear that the Soviet Union might directly intervene in those circumstances and the negative reaction of allies to hints that such options were even under consideration.

⁴² Dean Acheson, "Crisis in Asia—An Examination of U.S. Policy," *Department of State Bulletin* 22 (January 23, 1950), pages 111-118. The background to the speech is addressed in John Lewis Gaddis, "Drawing Lines: The Defensive Perimeter Strategy in East Asia, 1947-1951," in Gaddis, The Long Peace, pages 72-103. For the reaction of Soviet, Chinese, and North Korean leaders, see John Lewis Gaddis, We Now Know: Rethinking Cold War History, (Oxford: Clarendon Press, 1997), pages 72-73.

⁴³ Actually, Paul Nitze had argued in NSC-68—written before the North Korean attack—that the Soviets would exploit American reluctance to use atomic weapons to engage in "piecemeal aggression," (United States Department of State, Foreign Relations of the United States 1950, Volume I, page 264).

back to the battlefield' as the US Army put it.⁴⁴ In this way, the policy of deterrence began to move away from its integral association with atomic retaliation.⁴⁵

But deterrence at multiple levels, strategic and local, through punishment and denial, did not receive extensive theoretical attention until after the Korean War—and only then because of a dramatic apparent reversal in US deterrence policy. On January 12, 1954, Secretary of State John Foster Dulles delivered what came to be known as his 'Massive Retaliation' speech. In it, Dulles characterized the policies of the Truman Administration to buttress deterrence at multiple levels "superficial" "emergency measures," and argued that a sustainable deterrent of all levels of aggression had to rest upon the threat of atomic bombardment.⁴⁶ He argued that "[l]ocal defense will always be important. But there is no local defense which alone will contain the mighty land power of the Communist world. Local defenses must be reinforced by the further deterrent of massive retaliatory power." Deterrence would "depend primarily upon a great capacity to retaliate, instantly, by means and places of our choosing."⁴⁷ Dulles elaborated these points three months later in an article in *Foreign Affairs*. Although he rhetorically bolstered the

⁴⁴ This slogan was used by the US Army to summarize the purpose of Project Vista, the first study of the tactical use of nuclear weapons as an alternative to the Air Force's planned 'atomic blitz,' (see Gregg Herken, *Counsels Of War*, (New York: Alfred A. Knopf, 1985), pages 65-68). In addition to this, the United States committed troops to the defense of Korea, tripled the defense budget, sent six divisions of troops to Europe in September 1950, pressed to develop an integrated command structure within the Atlantic Alliance, advocated the rearmament of the Federal Republic of Germany within NATO as well as the admission of Greece and Turkey, obtained basing rights within the Middle East, concluded a peace treaty with Japan that secured American basing rights there, and pressed forward with the development of the hydrogen bomb.

⁴⁵ Although Arnold Wolfers discussed the complimentary nature of deterrence through punishment and deterrence through denial in "The Atomic Bomb in Soviet-American Relations," (pages 134-136), this distinction would not be formalized and popularized until Glenn Snyder's *Deterrence and Defense: Toward a Theory of National Security*, (Princeton: Princeton University Press, 1961).

⁴⁶ Dulles, "The Evolution of Foreign Policy," page 81. This speech, before the Council of Foreign Relations in January 1954, enunciated the doctrine that became known as 'Massive Retaliation.'

⁴⁷ Dulles, "The Evolution of Foreign Policy," pages 82-83.

importance of local defense—through collective efforts such as NATO—he baldly stated that *"The heart of the problem is how to deter attack. This, we believe, requires that a potential aggressor be left in no doubt that he would be certain to suffer damage outweighing any possible gains from aggression."*⁴⁸ Such damage would be directed "against the war industries of an attacking nation" and allies would be vital, not for their contribution to 'local defense,' but because the US Strategic Air Command (SAC) required "international facilities" to implement its plans for atomic retaliation.⁴⁹

Dulles' emphasis upon massive retaliation as the key to deterrence in an era of dual possession of nuclear weapons ignited scholarly interest in the nature of deterrence. Dulles reinforced the framework within which this debate would take place. For policy makers—those whom the strategists desired to advise—the 'heart of the problem' was convincing the adversary that the potential costs of aggression would outweigh its potential benefits. Hence, the policy problem was cast as one of programming forces that could ensure that high costs would be imposed by retaliatory strikes, that could preclude or at least make uncertain the benefits of aggression, and then conveying the will to use these forces in the appropriate circumstances with sufficient credibility. As William Kaufmann put it, "[t]he enemy must be persuaded that we have the capability to act; that, in acting, we could inflict costs greater than the advantages to be won from attaining his objective; and that we really would act as specified in the stated contingency."⁵⁰

⁴⁸ John Foster Dulles, "Policy for Security and Peace," *Foreign Affairs* 32, 3 (April 1954), page 357, *emphasis added*. This article provided an elaboration of the themes which Dulles enunciated in "The Evolution of Foreign Policy."

⁴⁹ Dulles, "Policy for Security and Peace," page 356.

⁵⁰ Kaufmann, "The Requirements of Deterrence," page 19. It should be noted that Kaufmann also wrote that "A deterrence policy thus constitutes a special kind of forecast: a forecast about the costs and risks that will be run by the party to be deterred, if certain actions are taken, *and about the advantages that he will gain if those actions are avoided*," (page 17, *emphasis added*). Although this might appear to be a statement about the comparative utility of defying or complying with the deterrer's demands, it is not. It is really an acknowledgement that the party to be deterred can be influenced through coercion and inducements. As Kaufmann later argues, "we must examine the side of rewards as well. It is possible, at least in principle, to deter an antagonist from taking inimical action by the offer of a better prospect than the one he presently enjoys," (page 31). Hence, Kaufmann is working from the presumption that the status quo—the

The subsequent debate revolved around the best means to make this case to the 'potential aggressor.' There were many differences of opinion expressed by the analysts who took up the problem,⁵¹ but the underlying framework presented by Dulles was common. As Richard Brody put it in a review of the deterrence literature circa 1960, "There is no one strategy of deterrence; the term, as it has gained general usage, has come to stand for any of a series of proposed strategies which would forestall, i.e., deter, possible aggression by making aggression 'costly.' . . . *there is a common assumption that national decision-makers are 'rational' and that, therefore, a good strategy is one which makes the costs and risks to a potential enemy of launching an attack greater than his probable gains.*"⁵² Dulles' focus on the adversary's costs and benefits of defiance therefore provided the framework within which deterrence theorists labored. Factors beyond the mix of military capabilities and conveyors of credibility were considered to be exogenous to the problem of deterrence.

Surprise Attack: Pushing the Limits of Deterrence Theory

The primary prediction and prescription of deterrence theory was that so long as the deterrer possessed the capability and demonstrated the willingness to make aggression 'unprofitable' deter-

antagonist's present prospects—is neutral and that he can therefore be influenced by either inducements or coercion.

⁵¹ In essence, strategic nuclear forces were considered to be sufficiently capable of imposing great costs upon an adversary but threats to use them were considered to lack some credibility if the adversary could retaliate in kind. On the other hand, conventional forces were not seen as sufficiently capable of denying the adversary its objectives but threats of their use for defensive purposes were considered to be credible. Finally, tactical nuclear weapons were considered as a means to square this circle: more capable than conventional forces for denial purposes but less credible given the possibility of escalation; and more credible than strategic nuclear forces but not as capable of sufficiently altering the adversary's cost-benefit calculus by themselves. For examples of these arguments, see Brodie, "Unlimited Weapons and Limited War"; Kaufmann, "The Requirements of Deterrence"; Henry A. Kissinger, Nuclear Weapons and Foreign Policy, (New York: Harper & Brothers, 1957), and Snyder, Deterrence and Defense.

⁵² Richard A. Brody, "Deterrence Strategies: An Annotated Bibliography," *Journal of Conflict Resolution* 4, 4 (December 1960), page 443, *emphasis added*.

rence would succeed. Despite disagreements between advocates of different force postures, all analyses of deterrence acknowledged that if nuclear weapons were used en masse the costs imposed upon the target of such an attack would exceed the benefits of any conceivable aggression. But the launch of Sputnik raised the spectre that these costs might not have to be paid. If the adversary were able to destroy the deterrer's strategic nuclear forces before they were used, then deterrence could fail spectacularly.

For the analysts of a country that was brought into the last World War through a surprise attack directed at its relevant military capabilities, this possibility provided a salient point for analysis. Once it was surmised that the threat of retaliation with atomic weapons would be the primary deterrent to a future war, it became clear that "the first and most vital step in any American security program for the age of atomic bombs is to take measures to guarantee ourselves in case of attack the possibility of retaliation in kind. . . . Reducing vulnerability is at least one way of reducing temptation to potential aggressors. And if the technological realities make reduction of vulnerability largely synonymous with preservation of striking power, that is a fact which must be faced."⁵³ Strategic analysis came to recognize the invulnerability of retaliatory forces as the *sin qua non* of nuclear, and hence all, deterrence. Working within the framework of deterrence theory, vulnerability assessment was often an extremely technical exercise, where "basic problems were defined in general and hypothetical terms, and the relevant data were technical and essentially military in nature; political considerations, beyond those captured by the basic notion of 'deterrence,' were thus simply factored out of the analysis."⁵⁴

⁵³ Brodie, "Implications for Military Policy," pages 76-77. This idea clashed with the doctrinal and organizational proclivities of the Strategic Air Command, however, who would come to base their war plans on the premise that they would possess sufficient warning to launch a preemptive strike against the Soviet Union, thereby 'blunting' its ability to attack the United States and precipitating its collapse. For a discussion of the clash between civilian analysts and the military men that they advised regarding the vulnerability of US retaliatory capabilities, see Kaplan, Wizards of Armageddon, pages 38-45, 85-110.

⁵⁴ Trachtenberg, History and Strategy, page 25. Kaplan describes the RAND Corporation's 1954 study of the Selection and Use of Strategic Air Bases, authored chiefly by Albert Wohlstetter, as having "set the model of what strategic analysis should be. . . . [it was] among the first attempts to abstract 'nuclear exchange,' to place it, like one of Wohlstetter's exercises in mathematical

But vulnerability studies naturally gravitated toward 'political considerations,' at least indirectly. Analytic considerations, such as the need to specify the degree of warning available, and the type and sequencing of the adversary's first strike, required the construction of scenarios that necessarily touched upon the adversary's goals and motivations. Perhaps equally important, selling the prescriptions of such analyses also required attention to 'political considerations.' Policy makers would not be sold on recommendations derived from such studies if they were not grounded in some conceivable circumstances that transformed the issue of strategic vulnerability into a problem that required a solution.⁵⁵

Hence, 'political considerations' did play an essential role in these studies. Four scenarios often guided thinking about a surprise attack: a Soviet attack on Western Europe, Soviet preventive war, Soviet preemption of a US attack, and a Soviet attack growing out of an unrelated crisis. These scenarios provide insight into the situations that American strategic analysts believed might motivate the Soviet Union to launch a surprise attack and often encouraged them to consider factors beyond military capabilities and credibility. But the exogenous nature of such factors to deterrence theory discouraged the full consideration of these scenarios and their implications for the stability of the 'balance of terror.' Indeed, although Brodie had argued that vulnerability was a critical problem as early as 1946, Kennan had argued that the Soviet Union might face a terrible internal crisis, and the possibility that such a crisis could encourage Soviet aggression, such dangers were not considered until the late 1950s—practically a decade after the Soviet Union acquired an atomic capability.

logic from earlier days, in a rarefied universe all its own, apart from the world of political leaders and their appreciation of horrible risk, apart from the broader issues of how nuclear weapons fit into an overall strategy and how many weapons were needed before their further accumulation no longer much mattered," (Kaplan, Wizards of Armageddon, page 109).

⁵⁵ For example, the Gaither Commission highlighted the vulnerability of US strategic forces in the absence of strategic warning and made several recommendations to solve this problem. But President Eisenhower considered the analysis behind the recommendations dubious given his confidence in the ability of the United States to provide itself such warning and the committee's conclusion that US forces were sufficiently invulnerable under those circumstances. See Kaplan, Wizards of Armageddon, pages 144-154.

The first scenario was the most conventional. In it, the Soviet Union desired to invade Western Europe in search of conquest. In order to avoid the losses that would be imposed by an American atomic response, it would seek to blunt US atomic capabilities beforehand. Just like the Japanese at Pearl Harbor (or the Germans in the First World War), the Soviets would hope to provide cover for their aggression in one theater by crippling the forces of the allies of their targets in another.⁵⁶ In this scenario, the Soviets would be seeking gains and attempting to minimize their potential losses—thereby reducing or even eliminating the costs that would make such aggression appear unprofitable. Thus Soviet decision makers were presumed to be those of Kennan's 'Long Telegram': cautious gain seekers who could be deterred if faced with 'unassailable barriers' that promised large enough costs. If the barriers were believed to be vulnerable, however, the Soviets may not be deterred. The prescription of an invulnerable retaliatory capability would prevent this possibility from arising.

The second scenario was motivated by a less conventional, perhaps even paranoid, conception of Soviet motives. It played upon fears that the Soviet Union might launch a preventive war in order to capitalize on its apparent military superiority over the West. This scenario was based upon selective aspects of Bolshevik ideology and Soviet acquisition of an atomic and thermonuclear capability. The dominant conception of Soviet strategy posited that the Kremlin planned for the long term and could patiently accept tactical setbacks and await eventual victory over the forces of capitalism. Yet Bolshevik ideology also held that the Soviet Union should seize upon all opportunities to hurry history along its predetermined path. Western vulnerability to a Soviet

⁵⁶ "The Russians might blunder into a war as a result of miscalculating a Korean type of action, or strategic objectives other than SAC neutralization might be selected for their first great offensive move. However, we cannot depend on enemy blunders, and the military advantage of the first atomic strike is so great that it is probable that the first overt move of a war would be an atomic attack against major U.S. targets, including, as a principal objective, the destruction of our offensive striking force. The Japanese chose this alternative in 1941, and the Russians would certainly have as much incentive in 1956," (Albert J. Wohlstetter, Fred S. Hoffman, Robert J. Lutz, and Henry S. Rowen, Selection and Use of Strategic Air Bases. RAND Report R-266, (Santa Monica: RAND, April 1954), page 227).

attack, conventional and especially nuclear, might present the Soviets with one of those "rare occasions which offer unusual possibilities for making great advances."⁵⁷

As the authors of NSC-68 put it,

"the Kremlin's strategic and tactical policy is affected by its estimate that we are not only the greatest immediate obstacle which stands between it and world domination, we are also the only power which could release forces in the free and Soviet worlds which could destroy it. The Kremlin's policy towards us is consequently animated by a particularly virulent blend of hatred and fear. . . . [I]t has both adhered to doctrine and followed the sound principle of seeking maximum results with minimum risks and commitments. . . . However, there is no justification in Soviet theory or practice for predicting that, should the Kremlin become convinced that it could cause our downfall by one conclusive blow, it would not seek that solution."⁵⁸

Brodie echoed this concern. "If the Soviet leaders should ever decide that by a surprise attack they could confidently count on destroying our strategic retaliatory force, whose very purpose it is constantly to threaten their existence, would it not be their duty as good Bolsheviks to launch

⁵⁷ Nathan Leites, The Operational Code of the Politburo, (New York: McGraw-Hill, 1951), page 66. Trachtenberg argues that Leites' work provided much of the background regarding Soviet calculations for strategic analysts at RAND (Trachtenberg, History and Strategy, pages 20-21) and a report prepared for the Committee on Foreign Affairs of the US House of Representatives concluded that Leites' work had great "influence in the American community of scholars and policymakers during the 1950's," (House Committee on Foreign Affairs, Soviet Diplomacy and Negotiating Behavior: Emerging New Context for U.S. Diplomacy. Special Studies Series on Foreign Affairs Issues, Volume I, prepared by Joseph G. Whelan of the Senior Specialists Division, Congressional Research Service, (Washington: United States Government Printing Office, 1979), page 221).

⁵⁸ US Department of State, "NSC 68," pages 245-246.

that attack?"⁵⁹ More generally, he argued that "a vulnerable strategic air force—one that the enemy can neutralize by surprise attack—is not merely no deterrent; it positively invites attack."⁶⁰

Although this scenario required dumping what Brodie had called 'the saving grace of the Soviet philosophy,' it did not necessarily affect the presumption that the status quo was an acceptable alternative to unprofitable aggression. Rather it simply changed the definition of what the Soviets might consider beneficial to themselves—the destruction of American power rather than the conquest of western Europe. The prescription that followed from this analysis therefore remained the same: invulnerable retaliatory forces would deprive the Soviets of any such historic opportunity and thereby foreclose yet another path to deterrence failure.

The third scenario was also a variation of the first. In it, the Soviet Union would launch an attack against US nuclear forces in order to preempt an imminent US attack. Although US declaratory doctrine emphasized *retaliation* in the event of a Soviet attack, prior to the launch of *Sputnik* in 1957 this was understood to be retaliation for an attack against US allies in Europe or elsewhere, not an attack against US territory.⁶¹ In the event of a general war, it was clear that the United States would assign top priority to destroying the Soviet nuclear arsenal so as to limit the damage that it could cause to the United States or its allies.⁶² In order to do so effectively, the

⁵⁹ Brodie, Strategy in the Missile Age, page 355. "We have to remember, of course, that the Soviets have a very high incentive for destroying us, or at least our military power, if they can do so—the incentive of eliminating what to them is a great threat," (Brodie, Strategy in the Missile Age, page 281). Despite his use of this sort of argument, Brodie's Clausewitzian approach to strategy led him to discount it. "[W]hat seems very difficult to grasp is that his gain cannot be measured simply in terms of damage to us, except insofar as that damage provokes an act or condition (i.e., surrender or military obliteration) which terminates the threat to him. Damage to us, however large, which fails to have such an effect may be no gain to him at all," (Brodie, Strategy in the Missile Age, page 279).

⁶⁰ Brodie, "Unlimited Weapons and Limited War," page 17.

⁶¹ "At the time, almost nobody even pretended that the Soviets had much ability to attack the United States directly," (Kaplan, Wizards of Armageddon, page 92).

⁶² Rosenberg, "Origins of Overkill," page 17.

United States would have to catch Soviet strategic forces while still on the ground. This would require attacking these targets with an element of surprise—perhaps attacking them with only strategic warning that a Soviet conventional attack on US allies was imminent. Indeed, the Strategic Air Command (SAC) had predicated its war plans entirely on the assumption that it would preemptively strike at Soviet targets.⁶³

Thus the Soviets had reason to fear that unless they managed to preempt such a US attack, their own nuclear forces would not be of much use in a general war. The incentive to 'use them or lose them' would be very hard to resist.⁶⁴ Indeed, it might very well set in motion a spiral of reciprocated expectations between Soviet and American policy makers that would provoke each to attempt to preempt the other, thus precipitating a Third World War—even in the absence of any other motive for conflict.⁶⁵ This scenario is the classic one of war resulting from the reciprocal fear of surprise attack. In it the adversary would not necessarily be motivated by the possibility of making gains, either absolute or relative. Rather it would be motivated by a desire to avoid the loss associated with suffering a preemptive attack against its nuclear capability—even if such an action would result in a net expected loss from the war that would follow.

⁶³ "As David Rosenberg says, 'massive retaliation' really meant massive preemption," (Trachtenberg, "A 'Wasting Asset'," page 34). See Rosenberg, "'A Smoking Radiating Ruin'," pages 12-13; and Rosenberg, "Origins of Overkill," pages 17, 25. Also see Kaplan, Wizards of Armageddon, pages 85, 94, 104; and Brodie, "Unlimited Weapons and Limited War," page 18.

⁶⁴ As Wohlstetter and Fred Hoffman wrote in Defending a Strategic Force After 1960. RAND Report D-2270, (Santa Monica: RAND, February 1, 1954): "If the I[C]BM is a probable threat and we cannot protect our strategic force against it, then our advertised capability for retaliation would be fictitious. We could not expect to hurt the Russians very much, unless we could be sure to strike the first blows. This should make us rather trigger happy. . . . It would appear also to make the Russians equally trigger happy. Because in this case striking the first blow is the only means of defense. . . ." (page 3).

⁶⁵ See Thomas C. Schelling, The Strategy of Conflict, (Cambridge: Harvard University Press, 1960), chapter 9, especially pages 218-219. Also see Trachtenberg, History and Strategy, pages 20-24.

What this means is that the status quo would no longer be stable or neutral for the adversary—it would be shifting precipitously in a negative direction. Analyses in this vein typically compared outcomes if the adversary chose between 'Attack' and 'No Attack,' or 'Strike' and 'Wait.'⁶⁶ By doing so, these analyses moved beyond calculating whether the benefits of an attack outweighed its costs. Instead, they compared the expected value of attacking to the expected value of not attacking—a value that could be quite negative. In this way the rarified military-technological environment within which vulnerability studies were considered actually broadened the underlying decision framework of deterrence theory, if not the factors that should feed into it.

This subtle change in deterrence theory was overshadowed by the politically loaded policy prescription that followed from this apolitical analysis: that the United States *and* the Soviet Union should move to make their retaliatory forces invulnerable to surprise attack in order to dampen the 'nervousness' that would drive their decision to preempt.⁶⁷ Such a prescription was an argument for accepting—and even encouraging—American vulnerability to a nuclear attack in pursuit of the enlightened self-interest of a stable mutual deterrent relationship. Still, it opened the way for another scenario that was based on broader political considerations.

The final scenario also considered a situation in which the Soviet Union might launch a surprise attack despite an expectation that it would result in a net loss. It built upon the mainspring of Kennan's analysis of Soviet motivations—i.e., the underlying weakness of the Soviet Union. If Soviet hostility were driven by insecurity, and if it might attack for the rather abstract reason of avoiding an American preemptive strike, might it not also attack if it stood to lose more than its nuclear arsenal? Kennan had argued that "Soviet Russia might be changed overnight from one of the strongest to one of the most pitiable of national societies."⁶⁸ What if the Soviet leadership faced such a situation?

⁶⁶ See, for example, Schelling's game theoretic discussion in *The Strategy of Conflict*, chapter 9; or Daniel Ellsberg's analysis in "The Crude Analysis of Strategic Choices," *American Economic Review* 51, 2 (May 1961).

⁶⁷ Schelling, *Strategy of Conflict*, pages 218-219.

⁶⁸ Kennan, "Sources of Soviet Conduct," page 866.

Albert Wohlstetter, the chief proponent of the vulnerability argument, could not rely upon abstract notions of a 'reciprocal fear' of surprise attack to convince skeptical policy makers and SAC commanders to take expensive measures to reduce the vulnerability of their forces or to accept the vulnerability of American society to stabilize the 'delicate balance of terror.' He therefore built upon Kennan's widely-accepted premise about Soviet fragility, his wife's work on Pearl Harbor, and the instability in Eastern Europe following Stalin's death to put Soviet motives in a more political context.⁶⁹ "What can be said, then, as to whether general war is unlikely?" asked Wohlstetter. "It should be clear that it is not fruitful to talk about the likelihood of general war without specifying the range of alternatives that are pressing on the aggressor and the strategic postures of both the Soviet bloc and the West. *Deterrence is a matter of comparative risks.*" Perhaps the risks of aggression might appear small to the Soviets—especially if US strategic forces were vulnerable to a surprise attack. "On the other hand, *the risks of not striking might at some juncture appear very great to the Soviets*, involving, for example, disastrous defeat in peripheral war, loss of key satellites with danger of revolt spreading—possibly to Russia itself—or fear of attack by ourselves. Then, striking first, by surprise, would be the sensible choice for them, and from their point of view the smaller risk."⁷⁰

In this scenario political factors previously considered exogenous to deterrence theory come into play. Wohlstetter directly challenged the presumption that the Soviets would consider the status quo acceptable and act only if the benefits of acting outweighed the costs. He broadened Dulles's emphasis on the costs and benefits of aggression and raised a series of questions about how the adversary would calculate its 'comparative risks.' Building upon Wohlstetter's analysis, Daniel Ellsberg suggested that Soviet calculations might include "Soviet losses or expectation of

⁶⁹ See Kaplan, Wizards of Armageddon, page 92; and Richard Rosecrance, "Albert Wohlstetter," in John Bayles and John Garnett, editors, Makers of Nuclear Strategy, (New York: St. Martin's Press, 1991), page 61; and Roberta Wohlstetter, Pearl Harbor: Warning and Decision, (Stanford: Stanford University Press, 1962).

⁷⁰ Albert Wohlstetter, "The Delicate Balance of Terror," *Foreign Affairs* 37, 2 (April 1959), page 222, emphasis added.

losses in a limited war, shifts in prestige, influence, or alliances, cold war failures, domestic setbacks or uprisings, [or] political rivalries with third parties"⁷¹ The success of deterrence therefore depended on more than technical assessments of military capability and credibility. The requirements of deterrence might be context specific and context would be defined as the adversary's expected state if it did not strike.

Wohlstetter and Ellsberg therefore raised serious questions about the key presumption that had focused deterrence theory for over a decade. For them, however, deterrence theory was a tool of analysis and prescription and the policy implications of their analysis were not straight forward. While a reduction of the vulnerability of the US retaliatory force would naturally follow from this analysis, it might not be enough to successfully "ensure that . . . at all times Strike appears inferior in Soviet calculations to some alternative ('Wait')."⁷² Other steps the United States could (or should) pursue to lower the chances that some exogenous factors might lead the Soviets to undertake a desperate diversionary war in order to retain control over their empire were simply beyond the scope of these analyses.⁷³ This scenario begged questions of grand strategy and US interests, topics far beyond the purview—if not the grasp—of these policy-oriented strategists. They therefore retreated to making the case for reducing the vulnerability of US strategic nuclear forces and left the task of reconsidering the foundations of deterrence theory to others.

Generalizing Deterrence Theory in the Golden Age

Others, however, did pick up on these issues and attempted to broaden the underlying calculus of deterrence and the factors that fed into it. Glenn Snyder and Bruce Russett recognized that most

⁷¹ Ellsberg, "The Crude Analysis of Strategic Choices," pages 474-475.

⁷² Ellsberg, "The Crude Analysis of Strategic Choices," page 474.

⁷³ "*Other things being equal*, the 'worse' Strike appears relative to its best alternative, the more likely that they will stay deterred as pay-offs undergo exogenous shifts. . . ." (Ellsberg, "The Crude Analysis of Strategic Choices," page 474, *emphasis added*).

analyses of deterrence did not consider the adversary's situation of 'comparative risk.'⁷⁴ "It is also worth noting that the benchmark or starting point for the aggressor's calculation of costs and gains from military action is not his *existing* value inventory but the extent to which he expects that inventory to be changed if he refrains from initiating military action," wrote Snyder. "In a very abstract nutshell, the potential aggressor presumably is deterred from a military move not simply when his expected cost exceeds his expected gain but when the net gain is less or the net cost is more than he expects when he refrains from the move."⁷⁵

Bruce Russett formalized Snyder's argument in "The Calculus of Deterrence" (1963). "[I]f [the adversary] thinks the chances that the defender will fight are substantial he will attack only if the prospective gains from doing so are great." How great? "Precisely," Russett explained in a footnote, "he will press the attack only if:

$$V_a * s + V_w * (1 - s) > V_o$$

where

V_a = the value of a successful attack (no war)

V_w = the value (usually negative) of an attack which is countered (war)

V_o = the value of doing nothing in this instance (no attack, no war)

s = the probability of a successful attack."⁷⁶

Russett left it to his readers to notice that the value of not attacking, or accepting the status quo, was represented by a *variable* (V_o) in his model. It was not presumed to be neutral but rather a quantity that needed to be assessed. In a later analysis of the failure of the United States to deter

⁷⁴ Glen Snyder, "Deterrence and Power," *Journal of Conflict Resolution* 4, 2 (June 1960); Snyder, *Deterrence and Defense*; Bruce M. Russett, "The Calculus of Deterrence," *Journal of Conflict Resolution* 7, 1 (March 1963); and Bruce M. Russett, "Pearl Harbor: Deterrence Theory and Decision Theory," *Journal of Peace Research* 2, 2 (1967).

⁷⁵ Snyder, "Deterrence and Power," page 166, *emphasis* in original. Also see Snyder, *Deterrence and Defense*, page 10.

⁷⁶ Russett, "The Calculus of Deterrence," page 107, including footnote 14.

a Japanese attack on Pearl Harbor,⁷⁷ Russett discarded understatement in favor of driving this point home. First he pulled his formulation of the adversary's decision calculus out of the footnotes and relabeled $V_0 \mathbf{P}$ to signify that it stood for "*peace*" or choosing not to attack at all."⁷⁸ He then recapitulated his model in plain English: "The final decision thus rests upon the relative values of two expressions: \mathbf{P} (do nothing) on the one hand; and the summed utilities, weighted by their subjective probabilities, of \mathbf{A} and \mathbf{W} on the other," where \mathbf{A} represented an attack that was not resisted and \mathbf{W} represented war.⁷⁹

With this clearer formulation of the adversary's decision calculus in hand, Russett then brought the empirical weight of a single crucial case to bear to illustrate its importance as an explanatory tool, with emphasis on the value of \mathbf{P} :

"Recall the formulation, which said that deterrence would succeed only if the utility of fighting a major war times its apparent probability was less than the utility of no attack, or 'peace.' We have established that, for the Japanese, the subjective probability that the United States would fight to defend the Indies was very high. Thus even though the utility of an attack on the British and Dutch territories would have been very high, if unresisted by the Americans, its probability was thought to be so slight that it amounted to little in their calculations. On the other hand, the utilities attached by different members of the Japanese elite to not attacking were extremely low. . . . to the various members of the Japanese decision-making system, and for somewhat different reasons, a peaceful settlement was utterly unacceptable. . . ."⁸⁰

⁷⁷ Obviously, because the United States failed to anticipate the Japanese attack against its fleet at Pearl Harbor, it did not attempt to deter the Japanese from undertaking this action. What Russett was discussing was the failure of what would come to be termed 'general deterrence.' See Patrick Morgan, *Deterrence, Second Edition*, (Beverly Hills: Sage Publications, 1983), pages 42-46.

⁷⁸ Russett, "Pearl Harbor," page 91.

⁷⁹ Russett, "Pearl Harbor," page 92.

⁸⁰ Russett, "Pearl Harbor," pages 96-98.

Russett concludes that "America's deterrent policy failed not because Japan's leaders really expected to win, but because they saw no alternative to war"⁸¹—or rather no *acceptable* alternative to war.

Russett further contended that a failure to consider the adversary's alternative to attacking might lead to an incorrect diagnosis of the reasons for deterrence failure. He argued that if only the expected value of attacking the United States was considered, the Japanese decision would appear to be "an act of irrationality, a choice that cannot be explained by any calculation of utilities and probabilities that would be arrived at by decision-makers of another nation."⁸² He argued further that the "rational-irrational distinction is for most purposes not a useful one" because it was inherently difficult to draw. In addition, this difficulty could be avoided: the inclusion of the expected value of the adversary's alternatives to attacking, summarized in the value of **P**, allowed "an explanation [that] does not require postulating that the Japanese leaders acted 'irrationally'," whether through stress-induced motivated biases, wishful thinking, avoidance behavior, personality quirks, or group think.⁸³

Russett concluded that the standard model of deterrence, with its exclusive focus on the costs and benefits of attacking was "inadequate for theory and dangerous for policy." Consequently, a "general theory of deterrence must, therefore, very explicitly include [the adversary's evaluation of] all *three* (no attack; attack the pawn; attack the defender directly) of [its] gross options."⁸⁴ Russett even argued that the conventional emphasis on possessing preponderant military capability and credibly conveying the will to use it might paradoxically lead to deterrence failure: "excessive attention by the defender to deterring an attack on an ally or client state can result in

⁸¹ Russett, "Pearl Harbor," page 102.

⁸² Russett, "Pearl Harbor," page 89.

⁸³ Russett, "Pearl Harbor," pages 89-90.

⁸⁴ Russett, "Pearl Harbor," page 99, *emphasis* in original.

failing to deter, or rather encouraging, an attack upon itself. If the attacker is also very dissatisfied with the status quo[—]a lesson for modern policy [that] bears remembrance—one should avoid presenting an opponent with options which are *all* highly unpalatable to him."⁸⁵

Irresistible Inertia

The insights of Snyder and Russett should have considerably altered the way in which deterrence theorists framed the decision calculus of the adversary; yet it did not. The framework enunciated by Dulles, with its exclusive focus on making defiance 'unprofitable,' continued to dominate the deterrence literature despite its inability to capture the essence of some of the most interesting scenarios driving the analysis of deterrence situations and the didactic arguments of two articulate scholars. How and why did this occur? As with Wohlstetter and Ellsberg, the desire for policy relevance appears to have discouraged the consideration of factors beyond the deterrer's immediate control. So too did the lack of a theory and easily-quantifiable measures of the value of outcomes other than war. These factors contributed mightily to the inertia of the defiance model.

It is difficult to overestimate the impact that intellectual inertia has on the way in which problems are framed.⁸⁶ The burden of accepted patterns of thought is even greater if the problem is one of policy and an analyst has to overcome the accepted views of two communities: scholars and policy makers.⁸⁷ The need to pattern an analysis along well-worn routes, despite cognizance of their flaws, can at times be overwhelming.

⁸⁵ Russett, "Pearl Harbor," pages 99-100, *emphasis* in original.

⁸⁶ See Thomas S. Kuhn, The Structure of Scientific Revolutions, Second Edition, Enlarged, (Chicago: The University of Chicago Press, 1970) for a discussion of the impact of accepted paradigms on the practice of 'normal science.'

⁸⁷ For a brief discussion of how deeply deterrence theory permeated all aspects of US defense planning, see John D. Steinbruner, "Beyond Rational Deterrence: The Struggle for New Conceptions," *World Politics* 28, 2 (January 1976), pages 226-228.

For instance, Snyder made a powerful case that the real benchmark for a deterrent threat was not whether it promised to deny the adversary a net gain, but whether it promised an outcome that was worse than not attacking. Yet he then proceeded to analyze different deterrent postures ('massive retaliation,' 'tactical nuclear retaliation,' and 'conventional response') that evaluated only the adversary's expected value of attacking.⁸⁸ As he put it, "the aggressor's 'risk calculus' [consists of] ① his valuation of an objective; ② the cost which he expects to suffer in an attack on the objective, as the result of various possible responses by the deterrer; ③ the probability of various responses, including 'no response'; and ④ the probability of winning the objective with each possible response. These are the basic factors the aggressor must weigh in determining, on balance, whether a venture is likely to result in a net gain or a net cost."⁸⁹

What of the aggressor's expected value of doing nothing and accepting the status quo? Snyder assigned it a value of '0' in the figures accompanying his analysis. He also wrote that "[i]t is useful to note that the probability of retaliation at which A [the attacker] will be indifferent between attacking or not (at which his *expected value for 'attack' is zero*) is . . . the 'required credibility' of [the deterrer's] threat."⁹⁰ This implies that the adversary's expected value of not attacking is also zero—otherwise more or less credibility would be required to induce the adversary's indifference between the two options. Snyder failed to heed his own argument. He could have noted that he was holding the 'benchmark' constant at a neutral value for analytic purposes, but he did not. Although he may have enhanced the programmatic focus of his analysis by focusing it in this way, Snyder limited its diagnostic and prescriptive value and undermined his own crucial point about correctly framing the adversary's calculations.

⁸⁸ Snyder, "Deterrence and Power," pages 167-174. Snyder repeats this discussion in Deterrence and Defense, pages 17-24.

⁸⁹ Snyder, "Deterrence and Power," page 167.

⁹⁰ Snyder, "Deterrence and Power," page 170, *emphasis* added. As he concluded after considering the adversary's expected value of attacking in an illustrative scenario in which the deterrer had three related levels of response (conventional response, tactical nuclear retaliation, and massive retaliation), "A's entire calculation yields him an expected value of about minus 3, which, of course, deters him," (page 172). Of course, it would only deter him if his next best alternative, no attack, yielded a greater expected value such as "0."

Russett's analysis, the first published empirical assessment of the factors associated with the outcomes of extended deterrence attempts, also belied his theoretical argument. Russett considered two measures of the relative capability of the deterrer and its adversary and seven indicators of the credibility of the deterrer's threat to intervene on its ally's behalf. He then determined their relationship to 17 extended deterrence outcomes. What is interesting here is that Russett's indicators relate only to the probable costs that the adversary could expect to endure if it dared to defy the deterrer.

What is missing from Russett's analysis are indicators of the adversary's expected benefits of defying the deterrer⁹¹ and, more importantly, its expected value of complying with the deterrer's demand to refrain from attacking—the 'precise' standard specified in his 'calculus of deterrence.' So while he ultimately described the adversary's valuation of compliance (no attack, no war) as a variable in the model that he claimed underlay his analysis, he failed to treat it as such in his analysis. Its omission implicitly presumes that 'peace' is a neutral outcome for the adversary. Perhaps this explains why he later devoted an entire article to forcefully elucidating a case where the adversary's valuation of its alternative to attacking was key. Unfortunately, this single 'case study' failed to register with deterrence theorists and Russett's comparative empirical analysis provided the template for those that would follow a generation later.

The result, ultimately, was the generation of a literature that empirically evaluated deterrence theory based upon the limited and stylized model that grew out of the early Cold War period and

⁹¹ They also could indicate the expected benefits of such defiance, if these benefits can be measured by the absolute importance of the protégé (i.e., its population and GNP). Yet it is doubtful that Russett intended these variables to indicate the potential aggressor's evaluation of the protégé's worth because he discusses these factors primarily in the context of the deterrer's valuation of the protégé. The closest that he came to putting these variables in the context of the potential aggressor's valuation is when he wrote that "Poland in 1939 constituted the largest prize of all, yet Hitler may not have been convinced that Britain and France would go to war to save it," (Russett, "The Calculus of Deterrence," page 100). As can be seen, the emphasis here is on whether *Britain* and *France* believed Poland was important enough 'to go to war to save' rather than its importance to Germany.

bent to the task of deterring a dissatisfied, opportunistic, but cautious and patient Soviet Union. The inability of deterrence theory to explain important instances of deterrence failure, such as Pearl Harbor, resulted in a debate over the validity and utility of deterrence theory. Was deterrence theory flawed because it presumed that the adversary would react to a coercive influence attempt in an instrumentally rational manner? Or was it simply limited in its ability to explain every individual case to which it could apply given the needs of generalizability and parsimony? The debate surrounding these alternative propositions generated a great deal of heat but only a modicum of light.⁹² Regrettably, the solution to the explanatory failures that prompted this debate—put forth in the early works of Snyder and Russett—encouraged the protagonists to close ranks and find common ground to reject it.⁹³ They claimed that explaining the anomalies that were at the root of their disagreement by incorporating the adversary's valuation of its alternative to attacking into its decision calculus unacceptably stretched the bounds of 'deterrence theory per se' and transformed it into something else altogether. And so rather than adapting to new circumstances after the Cold War, the deterrence research program sputtered to a halt with it.

Conclusions

In this paper, I have presented a partial intellectual history of deterrence theory as it developed throughout the last half of the 20th Century to provide insights with regard to how it may and should be adapted in response to the demands of a new strategic environment. Deterrence theory

⁹² See in particular the contributions to the *Journal of Social Issues* 43, 4 (1987), *World Politics* 41, 2 (January 1989), and the exchange encompassed in Richard Ned Lebow and Janice Gross Stein, "Deterrence: The Elusive Dependent Variable," *World Politics* 42, 3 (April 1990) and Paul K. Huth and Bruce M. Russett, "Testing Deterrence Theory: Rigor Makes A Difference," *World Politics* 42, 4 (July 1990).

⁹³ See Philip E. Tetlock, "Testing Deterrence Theory: Some Conceptual and Methodological Issues," *Journal of Social Issues* 43, 4 (1987) for a solution akin to that of Snyder and Russett, and Richard Ned Lebow and Janice Gross Stein, "Beyond Deterrence: Building Better Theory," *Journal of Social Issues* 43, 4 (1987); Richard Ned Lebow and Janice Gross Stein, "Rational Deterrence Theory: I Think, Therefore I Deter," *World Politics* 41, 2 (January 1989); and Huth and Russett, "Testing Deterrence Theory," for the responses.

developed within the context of the Cold War and the American position within it. The role of the United States as protector of the status quo and the Soviet Union as a potential challenger of the postwar order indelibly shaped American strategic thought about coercion. American fascination with and reliance on the vast destructive capabilities of atomic weapons further simplified the circumstances under which coercion was considered relevant. Deterrence consequently received vastly more attention than compellence. Presumptions about Soviet preferences were incorporated into deterrence theory and allowed an almost exclusive focus on the expected costs and benefits of attempts to overturn the status quo. When the resulting defiance model of deterrence became the framework used by top policy makers, strategic analysts relied on it with renewed vigor to advance their prescriptions for deterrence strategies. Little thought was given to the factors that could affect the Soviet Union's expected value of accepting the continuation of the status quo until the problems of surprise attack and strategic stability caught the attention of analysts in the late 1950s. While the possibility that an adversary might launch desperate attack if its situation was declining precipitously did not lead analysts to question the underlying model from which they derived their prescriptions, other scholars argued that such possibilities were integral to deterrence theory. Yet their claims were overwhelmed by the intellectual inertia of the accepted defiance framework, even to the extent that they also presumed that the adversary saw the status quo in neutral terms when they conducted their own analyses. This inertia continues to skew our understanding of deterrence and coercion more generally.

Bernard Brodie began his seminal 1946 analysis of the impact of atomic weaponry on coercion by arguing that "Statesmen have hitherto felt themselves obliged to base their policies on the assumption that the situation might again arise where to one or more great powers war looked less dangerous or less undesirable than the prevailing conditions of peace. They will want to know how the atomic bomb affects that assumption."⁹⁴ Regrettably, the studies of coercion that have followed Brodie's call for analysis have been handicapped by the context in which it was issued. That context is no more. It is time for those handicaps to be removed and a framework for understanding coercion outcomes developed that applies to more than deterring a gain-seeking but

⁹⁴ Bernard Brodie, "War in the Atomic Age," page 22.

cautious Soviet Union in the Cold War. Simply characterizing the adversary's decision calculus correctly, as a choice between compliance and defiance, and providing guidance regarding how the expected value of these choices can be calculated, would go a long way to improving our knowledge of coercion and our ability to explain, diagnose, and prescribe as American policy makers consider coercing their adversaries in this post-9/11 world.
